DEPARTMENT of ENVIRONMENTAL SERVICES Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: HOWE RESERVOIR		Lake Area (ha):	104.33
Town: DUBLIN		Maximum depth (m):	4.7
County: Cheshire		Mean depth (m):	2.5
River Basin: Connecti	cut	Volume (m³):	2585500
Latitude: 42°55'35	" N	Relative depth:	0.4
Longitude: 72°07'45	'' W	Shore configuration:	2.46
Elevation (ft):	1274	Areal water load (m/yr	:): 14.22
Shore length (m):	8900	Flushing rate (yr ⁻¹):	5.70
Watershed area (ha):	2667.7	P retention coeff.:	0.51
<pre>% watershed ponded:</pre>	4.5	Lake type: ar	tificial

BIOLOGICAL:	15 February 2000	6 July 1999
DOM. PHYTOPLANKTON (% TOTAL) #1	NO WINTER PLANKTON	ASTERIONELLA 20%
#2	ANALYZED	DINOBRYON 17%
#3		MELOSIRA 12%
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		5.70
DOM. ZOOPLANKTON (% TOTAL) #1		POLYARTHRA 46%
#2		KELLICOTTIA 20%
#3		
ROTIFERS/LITER		291
MICROCRUSTACEA/LITER		73
ZOOPLANKTON ABUNDANCE (#/L)		425
VASCULAR PLANT ABUNDANCE		Scat/Common
SECCHI DISK TRANSPARENCY (m)		2.7
BOTTOM DISSOLVED OXYGEN (mg/L)	9.7	6.3
BACTERIA (E. coli, #/100 ml) #1		
#2		
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 2.5 Hypolimnion volume (m³): None Anoxic volume (m³): None

CHEMICAL:			HOWE RESE	RVOIR	
	15 Febru	uary 2000	6 J	uly 1999	, ,,
DEPTH (m)	1.0		1.5	3.0	4.0
pH (units)	5.6		6.5	6.0	5.8
A.N.C. (Alkalinity)	2.3		2.2	2.4	3.3
NITRATE NITROGEN	0.29		< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	< 0.10		0.20	0.40	0.37
TOTAL PHOSPHORUS	0.007		0.008	0.010	0.014
CONDUCTIVITY (µmhos/cm)	61.2		44.0	44.5	45.1
APPARENT COLOR (cpu)	27		27	34	65
MAGNESIUM			0.56	···	
CALCIUM			1.7		
SODIUM			5.1		
POTASSIUM			0.50	•	
CHLORIDE	12	1,	7		7
SULFATE	5		4		4
TN : TP			25		26
CALCITE SATURATION INDEX			4.2		

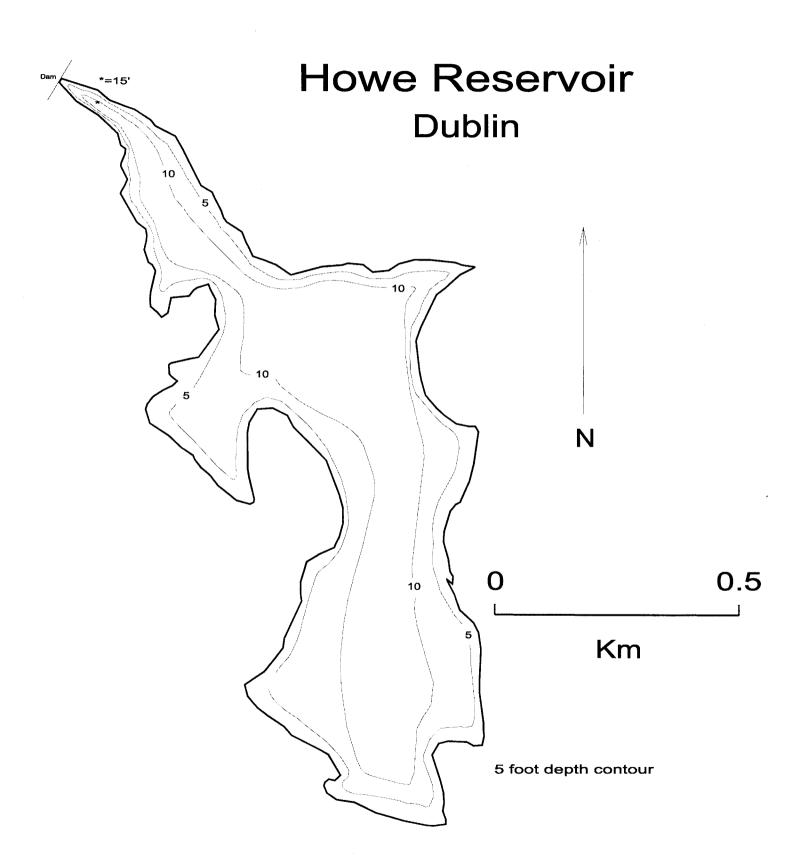
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1999

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	3	2	1	6	Meso.

COMMENTS:

- 1. Howe Reservoir was previously surveyed and classified in 1986. It was listed as eutrophic at that time, primarily because of a dissolved oxygen depletion in the bottom waters at the deep spot that was not observed in 1999. Other water quality parameters did not change greatly, although the water was less tea-colored in 1999.
- 2. Howe Reservoir is a recent (2000) participant in VLAP but with limited sampling.



FIELD DATA SHEET

LAKE: HOWE RESERVOIR

DATE: 07/06/1999

TOWN: DUBLIN

WEATHER: Hot, Humid, Overcast

DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	28.1	6.9	89 %
1.0	27.0	7.5	94 %
2.0	26.3	8.2	101 %
3.0	23.0	8.6	100 %
4.0	20.7	7.0	78 %
4.5	18.3	6.3	67 %

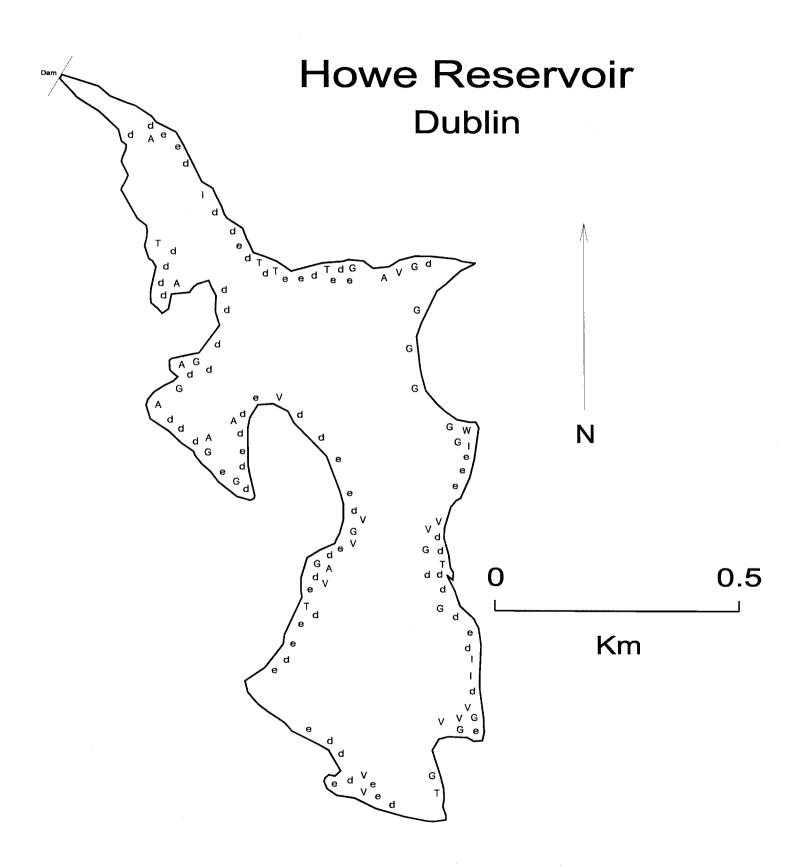
SECCHI DISK (m): 2.7

COMMENTS:

BOTTOM DEPTH (m): 4.7

TIME: 1458

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAK	E: HOWE RESERVOIR	rown: Dublin	DATE: 07/06/1999	
Vorr	PLANT	NAME	ADUNDANCE	
Key	GENERIC	COMMON	ABUNDANCE	
G	Gramineae	Grass family	Scattered	
е	Eleocharis	Spike rush	Scat/Common	
U	Utricularia	Bladderwort	Sparse	
Т	Typha	Cattail	Sparse	
d	Dulichium arundinaceum	Three-way sedge	Scat/Common	
A	Sagittaria	Arrowhead	Sparse	
W	Potamogeton	Pondweed	Sparse	
V	Vallisneria americana	Tape grass	Scattered	
I	Iris	Iris	Scattered	
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OVERALL ABUNDANCE: Scat/Common				

OVERALL ABUNDANCE: Scat/Common

GENERAL OBSERVATIONS:

1. Lots of submerged dead trees and rocks in the middle section of the reservoir.